

What Is Claimed Is:

1. A surgical system comprising:

a shaft having a distal end;

an image capture device configured to receive image data from the distal end

5 of the shaft;

a light source configured to provide light at the distal end of the shaft, wherein the light source is a light-emitting diode.

2. The system of claim 1, wherein the shaft is configured as an endoscope.

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3. The system of claim 1, wherein the shaft is flexible.

4. The system of claim 1, wherein the light source is an array of light-emitting diodes.

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5. The system of claim 1, wherein the light source and the image capture device are mounted at the distal end of the shaft.

6. The system of claim 5, wherein the light source, the image capture device and the shaft are, as a unit, at least one of sterilizable and autoclavable.

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7. The system of claim 1, wherein the image capture device is one of a camera and a CCD.

8. The system of claim 1, further comprising a power source for providing power to the light source, the power source located at the distal end of the shaft.

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9. The system of claim 1, wherein the shaft is sterilizable.

10. The system of claim 9, wherein the shaft is autoclavable.

5           11. The system of claim 1, further comprising a control module coupled to a proximal end of the shaft.

12. The system of claim 11, wherein the control module is detachably coupled to the proximal end of the shaft.

10           13. The system of claim 11, wherein the control module is sterilizable.

14. The system of claim 13, wherein the control module is autoclavable.

15           15. The system of claim 11, wherein the control module includes a video processor.

16. The system of claim 11, wherein the shaft includes a data transfer cable, and wherein the image data received by the image capture device is transmitted via  
20           the data transfer cable to the video processor.

17. The system of claim 15, further comprising a wireless arrangement configured to transfer image data received by the image capture device to the video processor.

25           18. The system of claim 11, further comprising a display screen.

19. The system of claim 18, wherein the display screen is integrally mounted to the control module.

20. The system of claim 11, wherein the shaft includes an irrigation/aspiration channel, and wherein the control module includes an irrigation/aspiration system for conveying fluid through the irrigation/aspiration channel of the shaft.

21. The system of claim 11, wherein the shaft includes steering cables for steering at least a portion of the shaft, and wherein the power module includes steering motors connected to the steering cables.

22. The system of claim 11, wherein the shaft includes a working channel for permitting the passage of tools through the shaft.

23. The system of claim 11, wherein the control module includes a control unit for enabling a user to control the surgical system.

24. The system of claim 11, wherein the control module includes a controller for automatically controlling the surgical system.

25. The system of claim 11, further comprising a power module coupled to the control module, the power module configured to provide power to components housed in at least one of the control module and the shaft.

26. The system of claim 25, wherein, when the power module is configured to provide power to components housed in the shaft, the shaft includes a power transfer cable.

5            27. The system of claim 25, wherein the power module includes at least one of drive motors and a power source.

28. The system of claim 1, wherein the system is configured as one of a proctoscope and an anoscope.

10            29. A surgical system comprising:  
a shaft having a distal end, wherein the shaft is sterilizable;  
an image capture device configured to receive image data from the distal end of the shaft; and  
15            a light source configured to provide light at the distal end of the shaft.

30. The system of claim 29, wherein the shaft is autoclavable.

31. The system of claim 29, wherein the shaft is configured as an endoscope.

20            32. The system of claim 29, wherein the shaft is flexible.

33. The system of claim 29, wherein the light source is a light-emitting diode.

25            34. The system of claim 33, wherein the light source is an array of light-emitting diodes.

35. The system of claim 29, wherein the light source and the image capture device are mounted at the distal end of the shaft.

36. The system of claim 35, wherein the light source, the image capture device and the shaft are, as a unit, at least one of sterilizable and autoclavable.

37. The system of claim 29, wherein the image capture device is one of a camera and a CCD.

38. The system of claim 29, further comprising a power source for providing power to the light source, the power source located at the distal end of the shaft.

39. The system of claim 29, further comprising a control module coupled to a proximal end of the shaft.

40. The system of claim 39, wherein the control module is detachably coupled to the proximal end of the shaft.

41. The system of claim 39, wherein the control module is sterilizable.

42. The system of claim 41, wherein the control module is autoclavable.

43. The system of claim 29, wherein the control module includes a video processor.

44. The system of claim 43, wherein the shaft includes a data transfer cable, and wherein the image data received by the image capture device is transmitted via the data transfer cable to the video processor.

5           45. The system of claim 44, further comprising a display screen.

46. The system of claim 45, wherein the display screen is integrally mounted to the control module.

10           47. The system of claim 39, wherein the shaft includes an irrigation/aspiration channel, and wherein the control module includes an irrigation/aspiration system for conveying fluid through the irrigation/aspiration channel of the shaft.

15           48. The system of claim 39, wherein the shaft includes steering cables for steering at least a portion of the shaft, and wherein the power module includes steering motors connected to the steering cables.

49. The system of claim 39, wherein the shaft includes a working channel for permitting the passage of tools through the shaft.

20           50. The system of claim 39, wherein the control module includes a control unit for enabling a user to control the surgical system.

25           51. The system of claim 39, wherein the control module includes a controller for automatically controlling the surgical system.

52. The system of claim 39, further comprising a power module coupled to the control module, the power module configured to provide power to components housed in at least one of the control module and the shaft.

5           53. The system of claim 52, wherein, when the power module is configured to provide power to components housed in the shaft, the shaft includes a power transfer cable.

10           54. The system of claim 52, wherein the power module includes at least one of drive motors and a power source.

55. The system of claim 29, wherein the system is configured as one of a proctoscope and an anoscope.

15           56. A surgical system comprising:  
a shaft having a proximal end and a distal end,  
an image capture device configured to receive image data from the distal end of the shaft;  
a light source configured to provide light at the distal end of the shaft;  
20           a control module coupled to the proximal end of the shaft;  
a power module coupled to the control module, the power module configured to drive at least one drivable component housed in at least one of the shaft, the control module and the power module; and  
at least one power source integrally housed in at least one of the shaft, the  
25           control module and the power module.

57. The system of claim 56, wherein the shaft is configured as an endoscope.

58. The system of claim 56, wherein the shaft is flexible.

5 59. The system of claim 56, wherein the shaft is sterilizable.

60. The system of claim 59, wherein the shaft is autoclavable.

61. The system of claim 56, wherein the control module is sterilizable.

10 62. The system of claim 61, wherein the control module is autoclavable.

63. The system of claim 56, wherein the light source and the image capture device are mounted at the distal end of the shaft, and wherein the light source, the image capture device and the shaft are sterilizable as a unit.

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64. The system of claim 63, wherein the light source and the image capture device are mounted at the distal end of the shaft, and wherein the light source, the image capture device and the shaft are autoclavable as a unit.

20 65. The system of claim 56, wherein the light source is a light-emitting diode.

66. The system of claim 65, wherein the light source is an array of light emitting diodes.

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67. The system of claim 56, further comprising a second power source for providing power to the light source, the light source and the second power source located at the distal end of the shaft.

5           68. The system of claim 56, wherein the control module is detachably coupled to the proximal end of the shaft.

10           69. The system of claim 56, wherein the control module includes a video processor.

70. The system of claim 69, wherein the shaft includes a data transfer cable, and wherein the image data received by the image capture device is transmitted via the data transfer cable to the video processor.

15           71. The system of claim 56, further comprising a display screen.

72. The system of claim 71, wherein the display screen is integrally mounted to the control module.

20           73. The system of claim 56, wherein the shaft includes an irrigation/aspiration channel, and wherein the control module includes an irrigation/aspiration system for conveying fluid through the irrigation/aspiration channel of the shaft.

25           74. The system of claim 56, wherein the power module includes a pump connected to irrigation/aspiration system for at least one of introducing or removing fluid via the irrigation/aspiration channel.

75. The system of claim 56, wherein the shaft includes steering cables for steering at least a portion of the shaft, and wherein the power module includes steering motors connected to the steering cables.

5           76. The system of claim 56, wherein the shaft includes a working channel for permitting the passage of tools through the shaft.

77. The system of claim 56, wherein the control module includes a control unit for enabling a user to control the surgical system.

10           78. The system of claim 56, wherein the control module includes a controller for automatically controlling the surgical system.

15           79. The system of claim 56, wherein the shaft includes a power transfer cable.

80. The system of claim 56, wherein the surgical system is configured as a hand-held device.

20           81. The system of claim 56, wherein the power module includes at least one of drive motors and a power source.

82. The system of claim 56, wherein the system is configured as one of a proctoscope and an anoscope.